LIFEPAK® 500T

AED Training System

Operating Instructions

Medtronic

LIFEPAK® 500T
AED Training System

Medtronic

Medtronic Emergency Response Systems
11811 Willows Road Northeast
Redmond, WA 98052-2003 USA
Telephone: 425.867.4000
Toll Free (USA only): 800.442.1142
Fax: 425.867.4121
Internet: www.medtronic-ers.com
　　　www.medtronic.com

Medtronic Europe S.A.
Medtronic Emergency Response Systems
Rte. Du Molliau 31
Case postale 84
1131 Tolochenaz
Switzerland
Telephone: 41.21.802.7000
Fax: 41.21.802.7900

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LIFEPAK® 500T AED TRAINING SYSTEM
Quick Start Reference Card

Medtronic

Quick Start Procedure

1 Turn AED Trainer on.

2 Press PAUSE button on the remote control.

3 Select Shock Protocol from the Table below.

4 Press PAUSE again to confirm shock protocol. AED Trainer will turn itself off.

5 You are now ready to begin a training session. Use the remote control to create troubleshooting situations. Refer to the opposite side of this card for details.

6 Once the AED is turned on, the CONNECT ELECTRODES message appears (unless turned off in setup). Press ELECTRODE PADS on the remote control to advance to ANALYSIS.

Remote Control Button	AED Trainer Shock Protocol	Shock Order
F1	Fixed #1	SNNN
F2	Fixed #2	SSNN
F3	Fixed #3	NSNN
F4	Fixed #4	NNNN
C1*	Custom #1	SSSSSSSS
C2*	Custom #2	SSSSSSSS

* Custom settings may be changed in the set up mode (refer to operating instructions).

Note: The AED Trainer powers on with the last shock protocol selected during the previous use.

Note: For detailed instructions, refer to the LIFEPAK 500T AED TRAINING SYSTEM Operating Instructions.

S: Shock Advised   N: No Shock Advised

LIFEPAK® 500T AED TRAINING SYSTEM
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Button	Function
	Press to change any shock decision to NO SHOCK ADVISED. Function is active only during PUSH ANALYZE and STAND CLEAR, ANALYZING NOW.
	Press to toggle the training electrodes "on" or "off" the manikin. This feature is active when the training electrodes are connected to the AED Trainer.
	Press to toggle MOTION DETECTED "on" and "off." This feature is active during analysis only.
	Press once to activate a service warning (red wrench). Press twice: wrench flashes and CALL SERVICE is displayed and device will not operate. To clear, turn off the AED Trainer, or remove the battery pack.
	Press once to activate LOW BATTERY. Press twice to activate REPLACE BATTERY. Press three times to simulate failed battery. To clear, turn off the AED Trainer, or remove the battery pack.
	Press to simulate device detection of a shockable rhythm. CPSS is disabled when AUTO ANALYZE 2 is selected.
	Press any time to suspend device operation. Press again to resume operation at point of interruption. In PAUSE mode, press F1, F2, F3, F4, C1, or C2 to change shock protocol. Press PAUSE again to accept change and turn off AED Trainer.

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TABLE OF CONTENTS

1. Description

2. Getting Ready

3. Using the Remote Control

4. Setup

5. Maintenance

6. Reference Information

Appendix A   Declaration of Conformity

LIST OF FIGURES

LIST OF TABLES

1. DESCRIPTION

This section describes basic features, controls, and indicators of the LIFEPAK 500T Automated External Defibrillator (AED) Trainer. Refer to the following topics:

- Introduction, page 1
- Controls, Indicators, and Connectors, page 1
- Remote Control, page 5

Introduction

The LIFEPAK 500T AED Training System provides realistic training in the use of the LIFEPAK 500 automated external defibrillator (AED) without the actual charge and discharge of electrical energy. The AED Trainer accurately represents the appearance of the LIFEPAK 500 AED and realistically simulates actual LIFEPAK 500 AED operations including both two or three button operation.

The AED Trainer reproduces the LIFEPAK 500 AED's screen messages, audible tones, and voice prompts while guiding users through simulated analysis, energy delivery, and prompted CPR time (when selected). All AED Trainer functions are programmable to simulate the full range of scenarios possible during actual use of the LIFEPAK 500 AED.

The AED Trainer is powered by four alkaline D-cell batteries. The batteries are housed in a battery pack that simulates the size, shape, and installation technique of the LIFEPAK 500 AED battery.

Note: The AED Trainer does not provide training in the data management functions of the LIFEPAK 500 AED.

An infrared, wireless remote control allows the instructor to pause AED Trainer operation or to interrupt preconfigured routines with NO SHOCK ADVISED, CONNECT ELECTRODES, MOTION DETECTED, SERVICE WARNING/REQUIRED, LOW/REPLACE BATTERY and CPSS prompts.

The remote control may also be operated with the included cable. The remote control is powered by two AAA alkaline batteries.

The AED Trainer and remote control are intended for indoor use under normal room temperature and lighting conditions.

Controls, Indicators, and Connectors

AED Trainer controls, indicators, and connectors are illustrated in Figure 1 on page 2 and Figure 2 on page 3, and described in Table 1 on page 2. Table 2 on page 4 summarizes all the AED Trainer's voice prompts, screen messages, tones, and lighted indicators.

Remote control buttons are illustrated in Figure 3 on page 5 and described in Table 3 on page 10.

> **WARNING!**
> Always place the Trainer in a location separate from the defibrillator to avoid confusion in real emergencies.
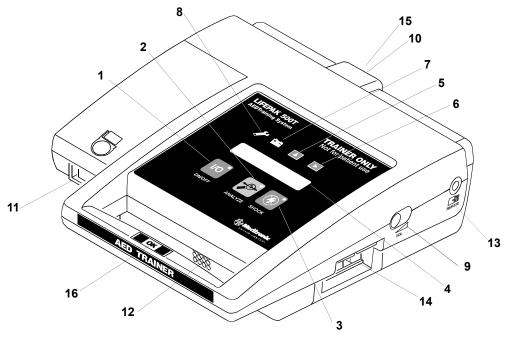
Figure 1 AED Trainer controls, indicators, and connectors

Table 1 AED Trainer controls, indicators, and connectors

1	ON/OFF	Press green ON/OFF to turn AED Trainer power on or off. Power on is confirmed by a green light in the upper right corner of the button.
2	ANALYZE	Press yellow ANALYZE to begin simulated analysis. The yellow light in the upper right corner flashes during the PUSH ANALYZE display and stays on steady during simulated analysis. **Note:** Analysis begins automatically when AUTO ANALYZE 2 is selected. ANALYZE may be covered with the black sticker (included) to simulate the appearance and operation of a 2-button LIFEPAK 500 AED.
3	SHOCK	Press orange SHOCK to respond to the PUSH TO SHOCK prompt. The light in the upper right corner of the button flashes during display of the PUSH TO SHOCK message.
4	Liquid Crystal Display (LCD)	Displays text messages and shock count. Two lines, 20 characters per line.
5	▲	(Up arrow) Used in setup mode to scroll through configuration options.

Table 1   AED Trainer controls, indicators, and connectors (Continued)

6	▶	(Right arrow) Used in setup mode to move the cursor to the right.
7		Icon lights red to simulate low battery power. Flashing red icon indicates replace battery immediately.
8		Icon lights red to simulate service required by authorized personnel.
9	Volume Control	Three-level selection switch controls speaker volume.
10	Remote Control Signal Receptor and Indicator	Remote control indicator lights to indicate signal reception from remote control.
11	Training Electrode Connector	Connection for the training electrodes.
12	Speaker	Provides audio voice prompts and tones.
13	Remote Control Connector	Connection for the remote control.
14	Battery Compartment	Accommodates the removable battery pack.
15	Remote Control Storage Compartment	Storage for remote control (in rear).
16	Readiness Display	In an actual LIFEPAK 500 AED, the readiness display allows the operator to determine if the AED is ready for use when the device is turned off or when the key panel is not visible. The readiness display is not functional on the AED Trainer. **Note:** Not all LIFEPAK 500 AEDs have a Readiness Display.

18

Latch release

17

Training Electrodes

Electrode Connector
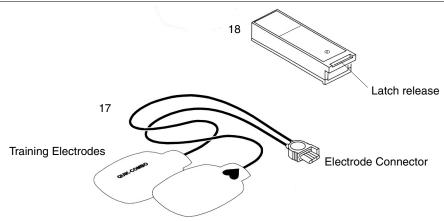
Figure 2   Battery pack and training electrodes

| 17 | Training Electrodes | Use the AED Trainer training electrodes to practice accurate electrode connection and placement. |
| 18 | Battery Pack | Holds four standard D-cell batteries that provide power to the AED Trainer. Installs into battery compartment. |

Table 2 AED Trainer voice prompts, display messages, tones, and indicators

Prompt	Voice	Display*	Indicator
CONNECT ELECTRODES	X	X	
IF YOU WITNESSED	X	X	
THE ARREST	X	X	
PUSH ▶ (right arrow)	X	X	
PUSH ANALYZE	X	X	ANALYZE flashes yellow
ANALYZING NOW	X	X	ANALYZE steady yellow
STAND CLEAR	X	X	ANALYZE steady yellow
NO SHOCK ADVISED	X	X	
CHECK FOR PULSE	X	X	
CHECK FOR SIGNS OF CIRCULATION	X	X	
CHECK PATIENT	X	X	
SHOCK ADVISED	X	X	
PUSH TO SHOCK	X	X	SHOCK flashes red
IF NO PULSE	X	X	
IF NO SIGNS OF CIRCULATION	X	X	
IF NOT MOVING AND NOT BREATHING NORMALLY	X	X	
MOTION DETECTED	X	X	
STOP MOTION	X	X	
LOW BATTERY		X	Red battery indicator on steady
REPLACE BATTERY	X	X	Battery indicator flashes red
CHARGE REMOVED		X	
ASYSTOLE*	X	X	
CALL SERVICE		X	Service indicator flashes red
Attention "Beep" Tone	X		
SHOCK COUNTER		X	
CPR COUNTDOWN TIMER		X	
Charging Tone (8 seconds)	X		
Motion Tone	X		
Push to Shock Tone	X		
PAUSE (Remote Control only)		X	ON/OFF flashes green
START CPR	X	X	

* Not available in all languages.

Remote Control

The remote control and optional cable are illustrated below in Figure 3. Refer to "Using the Remote Control" on page 9 for complete remote control function information.

PAUSE	+ Button =	Shock Protocol
❚❚	F1	Fixed #1
❚❚	F2	Fixed #2
❚❚	F3	Fixed #3
❚❚	F4	Fixed #4
❚❚	C1	Custom #1
❚❚	C2	Custom #2
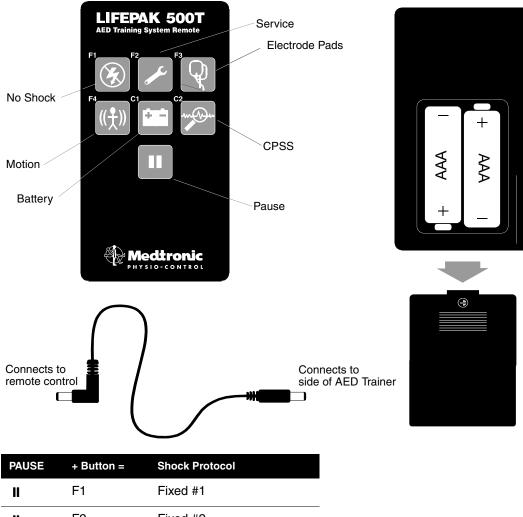
Figure 3 Remote control and cable

2. GETTING READY

This section describes how to prepare the AED Trainer for use. Refer to the following topics:

Unpacking and Initial Inspection

Remove the AED Trainer from the shipping container. Examine the device and accessories for any sign of damage during shipping. Save the container for reshipping the device.

Shipping container contents include:

- AED Trainer
- Remote control
- Remote control cable
- Battery pack
- Training electrodes
- Analyze key cover labels (black sticker)
- Softcase with identification card

- 2 AAA batteries (for remote control)
- 4 D-cell batteries (for battery pack)
- Operating instructions (this manual)
- International handle labels
- International identification cards
- International control panel labels

Installing Batteries

The AED Trainer is powered by four D-cell alkaline batteries. The batteries are housed in a "battery pack" that simulates the size, weight, and installation technique of the LIFEPAK 500 AED BATTERY PAK. Four fresh batteries provide 100 hours minimum of continuous device operation.

The remote control requires 2 AAA batteries.

To install batteries in the battery pack:

1. Verify that AED Trainer power is off. Remove the battery pack by depressing the battery pack latch on the side of the AED Trainer.

2. To remove the battery compartment cover, remove the screw and cover.

3. Insert four fresh batteries taking care to position the (+) and (-) terminals correctly (see Figure 4).

4. Replace the battery compartment cover and insert the battery pack into the AED Trainer until the latch snaps into place.

Note: Always replace all the batteries at the same time. Always use four identical batteries.

Note: For permanent storage, remove the batteries from the battery pack. For infrequent use of the product (approximately once every six months), the batteries may remain in the battery pack.

Note: To conserve battery power, the AED Trainer shuts down automatically after 15 minutes of inactivity. In pause mode, the AED Trainer automatically shuts down after 30 minutes of inactivity.
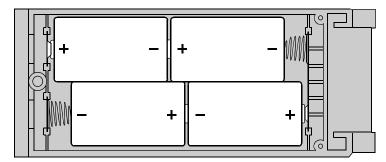
Figure 4   Battery pack battery installation

To install or replace the remote control batteries (see Figure 3 on page 5):

1   On the rear of the remote control, slide the battery compartment cover open using firm downward thumb pressure.

2   Insert two AAA batteries taking care to align the (+) and (-) terminals correctly.

3   Replace the battery compartment cover, making sure it snaps securely into place.

Beginning a Training Session

1   Confirm or setup AED Trainer configuration.

To simulate a two-button LIFEPAK 500 AED, place the black sticker (included) over the ANALYZE button and select AUTO ANALYZE 2 in setup mode (refer to "Configuring Auto Analyze" on page 18).

Review AED Trainer settings and configure as desired. Refer to "Setup" on page 12 for complete setup and configuration information.

2   Connect the training electrodes to the AED Trainer.

To connect the training electrodes to the AED Trainer, insert the electrode connector into the AED Trainer cable connector until it snaps into place (Figure 5).

To disconnect the training electrodes from the AED Trainer, grasp the connector and pull firmly away from the unit. Do not disconnect the training electrodes by pulling on the cable.

Training Electrode Connector

Cable Connector
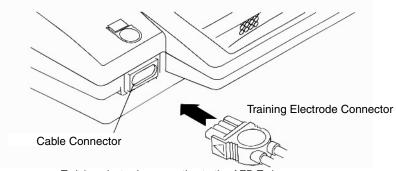
Figure 5   Training electrode connection to the AED Trainer

3   Place training electrodes on the manikin.

See Figure 6 for training electrode placement on the manikin.
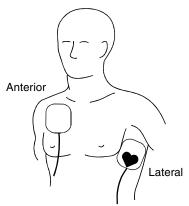
Figure 6 Training electrode placement on manikin

To remove the training electrodes from the manikin, grasp the electrode pad at the cable end and peel it away from the manikin at a 45° angle. Do not remove the training electrodes from the manikin by pulling on the cable.

Note: Do not touch the adhesive or allow a training electrode to fold over on itself. This will shorten the electrode's useful life.

Note: During operation of the AED Trainer:

-   If the training electrodes disconnect from the device, the CONNECT ELECTRODES message appears.
-   If the training electrodes detach from the manikin, the CONNECT ELECTRODES message does **not** appear.

4   Press ON/OFF to turn AED Trainer power on and off.

Whenever the AED Trainer is turned on, a four- to five-second self-diagnostic initialization occurs. During initialization all display segments blink on and off once. The following messages appear briefly: MEDTRONIC C20XX, and SELF TEST 1.XX. All indicators blink on and off once.

When initialization is complete, the green ON/OFF indicator stays on steady and the AED Trainer begins automatic operation.

Depending on AED Trainer configuration, the user receives one of the following prompts:

-   CONNECT ELECTRODES
-   PUSH ANALYZE
-   STAND CLEAR, ANALYZING NOW

Note: If the operator turns the AED Trainer off when the D-cell batteries that power the AED Trainer are low, the AED Trainer gives the following "low battery" indicators:

-   The ON/OFF light remains on
-   A 3-beep tone sounds
-   A low battery message appears on the display
-   The battery icon flashes red

After these low battery indicators, the AED Trainer shuts off.

Following a Training Session

WARNING!

Always place the Trainer in a location separate from the defibrillator to avoid confusion in real emergencies.

3. USING THE REMOTE CONTROL

This section describes the functions of the remote control and how the remote control interacts with the AED Trainer. Refer to the following topics:

- Introduction, page 9
- Remote Control Cable, page 9
- Remote Control Functions, page 10

Introduction

During a training session, the instructor may use the remote control to create realistic training scenarios. The remote control allows the instructor to:

- Vary the shock protocol at any time during the training session
- Pause AED Trainer operation
- Interrupt preconfigured routines with NO SHOCK ADVISED, CONNECT ELECTRODES, MOTION, SERVICE WARNING/REQUIRED, LOW/REPLACE BATTERY and CPSS prompts
- Select any one of the six available shock protocols (while in pause mode)

The remote control communicates with the AED Trainer via wireless infrared signals, or by means of an optional cable. An indicator on the rear of the AED Trainer acknowledges received remote control signals both with and without the cable:

- One red flash indicates valid signal reception from the remote control, and AED Trainer operation responds accordingly.
- Three rapid red flashes indicate that an invalid remote control key was pressed, and AED Trainer operation is unchanged.
- A steady red light indicates that the AED Trainer is in pause mode.

To use the remote control without the cable, the Trainer must stand behind the AED Trainer. During use, hold the remote control level rather than aiming it directly at the AED Trainer.

Each time the AED Trainer is turned on, all remote selections from the previous training session are deleted, with the exception of the current shock protocol which is stored in memory.

Remote Control Cable

To use the remote control cable, insert the cable's right-angle connector into the remote control connector located on the remote control. Insert the other end into the connector located on the side of the AED Trainer (see Figure 1 on page 2).

Disconnect the remote control cable by grasping the connector at each end and pulling gently.

Remote Control Functions

Remote control functions are described in Table 3.

Table 3 Remote control functions

Symbol	Function	Operation and Description
⊗	• Change any rhythm to NO SHOCK ADVISED	Press NO SHOCK to change any shock decision within a shock protocol to NO SHOCK ADVISED. This function is enabled only during PUSH ANALYZE and STAND CLEAR, ANALYZING NOW periods.
🔧	• Simulate SERVICE WARNING, SERVICE REQUIRED	Press SERVICE once to activate SERVICE WARNING. The AED Trainer continues normal operation while the SERVICE wrench lights red.
		Press SERVICE a second time to activate SERVICE REQUIRED. The service wrench flashes and the AED Trainer stops operating.
		To clear either service prompt, turn the device off.
🔌	• Simulate electrode placement/attachment on the manikin	Press ELECTRODE PADS to toggle the training electrodes "on" and "off" the manikin.
		When training electrodes are "off" the manikin, the AED Trainer delivers CONNECT ELECTRODES prompt until the instructor presses ELECTRODE PADS again.
		Note: This feature is active only when training electrodes are connected to the AED Trainer
((👤))	• Start or stop simulated motion	Press MOTION to toggle motion "on" and "off."
		When motion is "on," the device delivers MOTION DETECTED prompts and tone for 10 seconds before resuming analysis.
🔋	• Simulate LOW BATTERY, REPLACE BATTERY, FAILED BATTERY	Press BATTERY once to activate the LOW BATTERY icon (steady red) and prompts. The AED Trainer continues normal operation while the BATTERY icon lights and a LOW BATTERY prompts alternate with normal prompts.
		Press BATTERY a second time to activate the REPLACE BATTERY icon (flashing red) and prompts. The AED Trainer continues normal operation while the BATTERY icon flashes and REPLACE BATTERY prompts alternate with normal prompts.
		To clear a LOW or REPLACE BATTERY prompt, turn the device off or remove the battery pack.
		Press BATTERY a third time to simulate failed batteries which automatically turns off the AED Trainer.

Table 3   Remote control functions (Continued)

Symbol	Function	Operation and Description
	• Simulate CPSS - Continuous Patient Surveillance System	Press CPSS to simulate device detection of a possible shockable rhythm.
		Press CPSS to interrupt device operation and initiate a 2-beep warning and PUSH ANALYZE prompts. When the operator presses ANALYZE, normal device operation resumes.
		CPSS is disabled when AUTO ANALYZE 2 is selected.
	• Pause / Resume Operation	Press PAUSE at any time to suspend device operation. All prompts cease and the message PAUSE appears on the display.
		Press PAUSE again to resume normal operation at the point of interruption.
	• Select/configure shock protocol	Press PAUSE and F1, F2, F3, F4, C1, or C2 to change the shock protocol.
		Press PAUSE again which saves the change and automatically turns off the AED Trainer.
		The AED Trainer enters pause mode when it reaches the end of a shock protocol. The instructor may either select another shock protocol by pressing the appropriate remote key (see below) or keep the same shock protocol by turning the AED Trainer off.
F1	• Initiate shock protocol Fixed #1	Press PAUSE, then F1 to initiate shock protocol Fixed #1 (refer to Table 4).
F2	• Initiate shock protocol Fixed #2	Press PAUSE, then F2 to initiate shock protocol Fixed #2 (refer to Table 4).
F3	• Initiate shock protocol Fixed #3	Press PAUSE then F3 to initiate shock protocol Fixed #3 (refer to Table 4).
F4	• Initiate shock protocol Fixed #4	Press PAUSE then F4 to initiate shock protocol Fixed #4 (refer to Table 4).
C1	• Initiate shock protocol Custom #1	Press PAUSE then C1 to initiate shock protocol Custom #1 (User configurable. Default is nine consecutive SHOCK ADVISED prompts with CPR time).
	• Initiate shock protocol Custom #2	Press PAUSE then C2 to initiate shock protocol Custom #2 (User configurable. Default is nine consecutive SHOCK ADVISED prompts with CPR time).

4. SETUP

This section explains how to set up and configure the AED Trainer. Refer to the following topics:

- Setup Options, page 12
- Setup Procedures, page 16
- Resetting Factory Default Settings, page 20
- Language Setup Procedure, page 20

cprMAX™ Technology

The cprMAX technology is designed to allow resuscitation protocols to maximize the amount of CPR administered during treatment using the LIFEPAK 500 AED. When used with the factory default settings enabled, the defibrillator allows AED protocols to be consistent with the 2005 American Heart Association Guidelines for Cardiopulmonary and Resuscitation and Emergency Cardiovascular Care and the European Resuscitation Council Guidelines for Resuscitation.

Setup Options

Setup options are described in the following table.

Table 4   AED Trainer setup options

Setup Option	Description	Default Setting
SHOCK PROTOCOL	Six Shock Protocol choices are available: four preconfigured protocols and two user-configurable protocols. The preconfigured shock protocols cannot be changed.	CUSTOM #1
• C1 – CUSTOM #1	User-configurable.	Nine consecutive SHOCK ADVISED decisions with CPR time
• C2 – CUSTOM #2	User-configurable.	Nine consecutive SHOCK ADVISED decisions with CPR time
• F1 – FIXED #1	One SHOCK ADVISED, followed by three NO SHOCK ADVISED decisions.	
• F2 – FIXED #2	Two SHOCK ADVISED, followed by two NO SHOCK ADVISED decisions.	
• F3 – FIXED #3	One NO SHOCK ADVISED, followed by one SHOCK ADVISED, followed by two NO SHOCK ADVISED decisions.	
• F4 – FIXED #4	Four NO SHOCK ADVISED decisions.	

Table 4 AED Trainer setup options (Continued)

Setup Option	Description	Default Setting
STACK SHOCKS	When set to OFF, the Stack Shocks option eliminates the analysis after each shock and inserts prompting for CPR after each (a single) shock. This eliminates the three-shock stack. CPR is prompted after the shock regardless of the ECG rhythm. The CPR time following the shock is determined by the CPR TIME 1 setting selected. Choices for the Stack Shocks option are ON or OFF.	OFF
INITIAL CPR	This option prompts the operator to START CPR or to proceed to analysis immediately.	OFF
• OFF	The CONNECT ELECTRODES prompt displays.	
• ANALYZE FIRST	The device proceeds to analysis if electrodes are applied. If device protocol is set to an initial SHOCK ADVISED decision, the prompt continues with IF YOU WITNESSED THE ARREST, PUSH ▶ (right arrow). If the device is set to a NO SHOCK ADVISED decision, the prompt is START CPR.	
• CPR FIRST	The START CPR prompt displays. When electrodes are connected (before or during CPR), the prompt continues with IF YOU WITNESSED THE ARREST, PUSH ▶ (right arrow), which initiates the analysis process. If the operator does not push ▶, the countdown continues for the Initial CPR Time period.	
INITIAL CPR TIME	This option applies to the setting for Initial CPR. The time choices are: 15, 30, 45, 60, 90, 120, or 180 seconds.	120
PRE-SHOCK CPR TIME	Pre-shock CPR is inserted after a SHOCK ADVISED decision to prompt the operator to perform CPR while the device is charging. The choices are: OFF, 15, or 30.	OFF
• OFF	Following a SHOCK ADVISED decision, the device charges with no CPR prompt.	
• 15 or 30	Immediately following a SHOCK ADVISED decision, the operator is prompted to START CPR. The countdown timer begins for 15 or 30 seconds, depending on setting.	

Table 4   AED Trainer setup options (Continued)

Setup Option	Description	Default Setting
AUTO ANALYZE	Auto Analyze options are 1, 2, or OFF.	1
• 1	Press ANALYZE to begin the first simulated analysis of each set of three consecutive simulated shocks. The AED Trainer automatically begins analysis for the second and third simulated shock in each three-shock set. After the Initial CPR Time period, the operator must press ANALYZE again to start simulated analysis.	
• 2	All analysis cycles begin automatically. To simulate the look of a two-button LIFEPAK 500 AED, the black sticker may be placed over the ANALYZE button. CPSS cannot be activated with the remote control in this mode.	
• OFF	The operator must press ANALYZE to initiate every analysis.	
	Note: When Stack Shocks is set to OFF, AUTO ANALYZE 1 functions the same as AUTO ANALYZE OFF.	
PULSE CHECK	This option determines when pulse check prompting is allowed.	NEVER
• NEVER	All prompting for pulse checks is removed.	
• AFTER SECOND NSA	Pulse check prompting is allowed after the second and all subsequent NO SHOCK ADVISED decisions, but not after shocks.	
• AFTER EVERY NSA	Pulse check prompting is allowed after every NO SHOCK ADVISED decision but not after shocks.	
• ALWAYS	Pulse check prompting is allowed after CPR, NO SHOCK ADVISED decisions, and shocks.	
PULSE PROMPT	This option determines which voice prompt (and LCD message) is presented to tell the operator to check the patient for signs of circulation. Checking for signs of circulation is important after a NO SHOCK ADVISED decision, after three sequential shocks, and after a CPR interval.	1–CHECK PULSE
	Note: The Pulse Prompt setting is not applicable when Pulse Check is set to NEVER.	
	Note: The Pulse Prompt setting availability depends on the language configuration.	

Table 4 AED Trainer setup options (Continued)

Setup Option	Description	Default Setting
• 1–CHECK PULSE	If 1–CHECK PULSE is selected, one of the following voice prompts and LCD messages will be presented: CHECK FOR PULSE; IF NO PULSE, START CPR or CHECK FOR PULSE; IF NO PULSE, PUSH ANALYZE.	
• 2–CHECK PATIENT	If 2–CHECK PATIENT is selected, one of the following voice prompts and LCD messages will be presented: CHECK PATIENT; IF NOT MOVING AND NOT BREATHING NORMALLY, START CPR, or CHECK PATIENT; IF NOT MOVING AND NOT BREATHING NORMALLY, PUSH ANALYZE.	
• 3–CHECK FOR SIGNS	If 3–CHECK FOR SIGNS is selected, one of the following voice prompts and LCD messages will be presented: CHECK FOR SIGNS OF CIRCULATION; IF NO SIGNS OF CIRCULATION, START CPR, or CHECK FOR SIGNS OF CIRCULATION; IF NO SIGNS OF CIRCULATION, PUSH ANALYZE.	
CPR TIME 1 and CPR TIME 2	The CPR Time 1 option inserts prompting to perform CPR after a single shock or a set of three shocks is delivered. The CPR Time 2 option inserts prompting to perform CPR after a NO SHOCK ADVISED decision. The choices for both CPR Times 1 and 2 are: 0, 15, 30, 45, 60, 90, 120, and 180 seconds, and 999 (infinite CPR time). For all selections except 0 and 999, the AED prompts the operator to perform CPR and then displays a countdown timer. If 999 is selected, the AED prompts the operator to perform CPR but does not display the countdown timer. The AED will not prompt the operator to PUSH ANALYZE, although the operator may do so at any time to initiate an analysis. **Note:** When an analysis after a shock results in a NO SHOCK ADVISED decision, the CPR period is the same as CPR Time 1. **Note:** CPR Time 0 is not available if AUTO ANALYZE 2 is selected on AEDs that have an ANALYZE button or on AEDs that do not have an ANALYZE button. CPR Time 999 is not available on AEDs that do not have an ANALYZE button.	120

Table 4 AED Trainer setup options (Continued)

Setup Option	Description	Default Setting
ASYSTOLE DETECTOR	Choose ON or OFF.	OFF
• OFF	No impact on device function.	
• ON	After six consecutive NO SHOCK ADVISED decisions, the prompt NO SHOCK ADVISED, ASYSTOLE is received. No further analysis is initiated.	
INITIAL ELECTRODE PLACEMENT	Choose ON or OFF.	OFF
• OFF	When the AED Trainer is turned on, CONNECT ELECTRODES prompts begin automatically. The device will not advance to analysis prompts until the training electrodes are connected to the device and the instructor presses ELECTRODE PADS on the remote control.	
• ON	When the AED Trainer is turned on and the training electrodes are connected to the device, analysis prompts begin automatically.	
MOTION DETECTION	This option determines whether or not the motion detection system is active during analysis. When this option is ON, motion that is detected prevents analysis from proceeding for up to 10 seconds. After 10 seconds, analysis continues regardless of whether or not motion is present.	ON (not configurable)
LANGUAGE	Trainer version -06: Choose one of seven languages: English, Dutch, French, German, Italian, Spanish, or Iberian Portuguese.	
	Trainer version -07: Choose one of five languages: English, Finnish, Swedish, Danish, or Norwegian.	
	Trainer version -08: Choose one of six languages: English, Czech, Arabic, Russian, Hungarian, or Polish.	
	Trainer version -09: choose one of four languages: English, Japanese, Cantonese, or Mandarin.	

Setup Procedures

This section provides instructions for entering setup mode and configuring the setup options.

Note: Settings are retained between device uses even if the batteries are removed.

Entering Setup Mode

1   Make sure the AED Trainer is turned off.

2   Press and hold ▲ (up arrow) and ▶ (right arrow) while pressing the AED Trainer ON/OFF button.

The message SETUP MODE and the installed software version appear briefly, and then the SHOCK PROTOCOL screen appears.

Note: For two-button devices (black sticker covers ANALYZE button), press the black sticker instead of the ANALYZE button in the following setup procedures.

Configuring Shock Protocol

1   After entering setup mode, the SHOCK PROTOCOL screen appears.

> SHOCK PROTOCOL
> CUSTOM #1 SSSSSSSSS

2   Press ▲ to scroll through the following shock protocol options (the protocols are described in Table 3 on page 10):
   - CUSTOM #1 (SSSSSSSSS)
   - CUSTOM #2 (SSSSSSSSS)
   - FIXED #1 (SNNN)
   - FIXED #2 (SSNN)
   - FIXED #3 (NSNN)
   - FIXED #4 (NNNN)

3   When the desired protocol appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to exit setup mode (the display flashes and your selection is saved).

Configuring Custom Settings

To change the settings for CUSTOM #1 or CUSTOM #2:

1   Press ▲ until CUSTOM #1 or CUSTOM #2 appear on the display.

2   Press ▶ to display a cursor (_) under the first letter (S or N).

3   Press ▲ to toggle between S (shock), N (no shock), or blank.

4   Press ▶ to move the cursor to the right.

5   Repeat steps 3 and 4 until the shock protocol is configured as desired.

6   Press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Stack Shocks

1   In setup mode, press ANALYZE until the STACK SHOCKS screen appears.

> STACK SHOCKS
> OFF

2   Press ▲ to toggle between ON or OFF.

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Initial CPR

1   In setup mode, press ANALYZE until the INITIAL CPR screen appears.

```
                    INITIAL CPR
                       OFF
```

2   Press ▲ to scroll through the following available settings:
    - ANALYZE FIRST
    - CPR FIRST
    - OFF

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Initial CPR Time

1   In setup mode, press ANALYZE until the INITIAL CPR TIME screen appears.

```
                  INITIAL CPR TIME
                       120
```

2   Press ▲ to scroll through the following available time settings (in seconds) for initial CPR: 15, 45, 60, 90, 120, or 180.

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Pre-Shock CPR Time

1   In setup mode, press ANALYZE until the PRE-SHOCK CPR TIME screen appears.

```
                PRE-SHOCK CPR TIME
                       OFF
```

2   Press ▲ to scroll through the following available settings: OFF, 15, or 30.

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Auto Analyze

1   In setup mode, press ANALYZE until the AUTO ANALYZE screen appears.

```
                   AUTO ANALYZE
                        1
```

2   Press ▲ to scroll through the following available settings: 1, 2, or OFF.

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Pulse Check

1   In setup mode, press ANALYZE until the PULSE CHECK screen appears.

```
PULSE CHECK
NEVER
```

2   Press ▲ to scroll through the following available settings:
- NEVER
- AFTER SECOND NSA
- AFTER EVERY NSA
- ALWAYS

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Pulse Prompt

1   In setup mode, press ANALYZE until the PULSE PROMPT screen appears (on AEDs distributed in the English language only).

   Note: The Pulse Prompt setting is not applicable if Pulse Check is set to NEVER.

```
PULSE PROMPT
1–CHECK PULSE
```

2   Press ▲ to toggle through the following available settings:

- 1–CHECK PULSE
- 2–CHECK PATIENT
- 3–CHECK FOR SIGNS

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring CPR Time 1 and CPR Time 2

1   In setup mode, press ANALYZE until the CPR TIME 1 or CPR TIME 2 screen appears (on AEDs distributed in the English language only).

```
CPR TIME 1
120
```

2   Press ▲ to scroll through the following available CPR time settings: 0, 15, 30, 45, 60, 90, 120, or 180 seconds, or 999 (infinite CPR time).

3   When the desired time appears, press ANALYZE to save your selection and proceed to the next setup option or press ON/OFF to save your selection and exit setup mode.

Note: CPR TIME 0 is not available if AUTO ANALYZE 2 is selected.

Configuring Asystole Detector

1   In setup mode, press ANALYZE until the ASYSTOLE DETECTOR screen appears.

```
ASYSTOLE DETECTOR
OFF
```

2   Press ▲ to toggle between OFF or ON.

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Configuring Initial Electrode Placement

1   In setup mode, press ANALYZE until the INIT. ELEC. PLACEMENT screen appears.

```
INIT. ELEC. PLACEMENT
OFF
```

2   Press ▲ to toggle between the OFF or ON.

3   When the desired setting appears, press ANALYZE to save your selection and proceed to the next setup option, or press ON/OFF to save your selection and exit setup mode.

Resetting Factory Default Settings

To reset the default settings:

1   Turn the device off.

2   Press and hold the ANALYZE and SHOCK buttons while pressing the AED Trainer ON/OFF button.

3   When the SET FACTORY DEFAULTS prompt appears, press ▶.
    The RESTORING FACTORY DEFAULTS message will appear, followed by the COMPLETE, WAIT FOR SHUT DOWN message.

4   The device will turn off. The next time the AED Trainer is turned on, the factory default settings will be restored.

Language Setup Procedure

Language settings are retained between device uses even if the batteries are removed.

To enter the language setup mode:

1   Press and hold in sequence: ▲, ▶, and ANALYZE.

2   Press ON/OFF.

    The software version appears briefly, then the LANGUAGE SELECT screen appears.

```
LANGUAGE SELECT
ENGLISH
```

3   Press ▲ repeatedly to scroll through the possible language settings.

4   When the desired language appears, press ON/OFF to save the language selection and turn off the AED Trainer.

5. MAINTENANCE

This section provides information for maintaining the LIFEPAK AED Trainer. Refer to the following topics:

- Battery Pack Battery Replacement, page 21
- Remote Control Battery Replacement, page 21
- Warranty, page 21
- Troubleshooting, page 22
- Cleaning, page 24
- Product Recycling Information, page 24
- Specifications, page 24
- Accessories, page 26

Battery Pack Battery Replacement

To replace the batteries (refer to Figure 4 on page 7):

1 Verify that AED Trainer power is off. Remove the battery pack by depressing the latch on the side of the device.

2 To remove the battery compartment cover, remove the screw and cover.

3 Remove the old batteries and replace with four fresh batteries taking care to position the (+) and (-) terminals correctly.

4 Close the battery pack's latching door and reinsert the battery pack into the AED Trainer.

Note: Always replace all the batteries at the same time. Always use four identical batteries.

Note: For permanent storage, remove the batteries from the battery pack. For infrequent use of the product (approximately once every six months), the batteries may remain in the battery pack.

Remote Control Battery Replacement

The remote control is powered by two "AAA" alkaline batteries. To replace the remote control batteries (refer to Figure 3 on page 5):

1 Open the battery compartment on the rear of the remote control by sliding the battery compartment cover down using firm thumb pressure.

2 Remove the old batteries.

3 Replace with two fresh, identical batteries, taking care to align the positive and negative terminals correctly.

4 Replace the battery compartment cover, making sure it snaps securely into place.

Note: Do not disassemble the AED Trainer. There are no operator-serviceable components and operator disassembly may void the warranty.

Warranty

In the USA, call 1.800.442.1142. Outside the USA, contact your local Medtronic representative for warranty information.

Troubleshooting

Tables 5 through 10 provide troubleshooting checklists for non-technical users. If the AED Trainer requires service, please contact your local Medtronic representative.

Table 5   Display troubleshooting

Observation	Possible Cause	Corrective Action
1 Faded image, device remains functional.	• Low battery.	• Replace batteries.
2 Blank screen, device remains functional.	• Low battery.	• Replace batteries.
	• LCD fault.	• Turn device on and off.
3 Blank screen, device does not function.	• Incorrect battery placement.	• Reinstall batteries in correct position.
	• Batteries depleted or damaged.	• Replace batteries.
4 ON/OFF light stays on when device is turned off; battery icon flashes, with 3-beeps and LOW BATTERY display	• Battery pack batteries are low (D-cells).	• Replace batteries.

Table 6   Voice prompt troubleshooting

Observation	Possible Cause	Corrective Action
1 Low volume, device remains functional.	• Low battery.	• Replace batteries.
	• Speaker grill partially covered.	• Remove obstruction.
2 No sound, device remains functional.	• Speaker grill covered.	• Remove blockage.
	• Speaker damaged.	• Contact your local Medtronic representative.
3 No sound, device does not function.	• Batteries depleted or damaged.	• Replace batteries.
	• Device damaged.	• Contact your local Medtronic representative.

Table 7   LED (indicator lights) troubleshooting

Observation	Possible Cause	Corrective Action
1 Fading intensity.	• Low battery.	• Replace batteries.
2 Unlit when ON/OFF pressed, device does not function.	• Batteries depleted or damaged.	• Replace batteries.
	• Device damaged.	• Contact your local Medtronic representative.

Table 8 Setup options troubleshooting

Observation	Possible Cause	Corrective Action
1 Messages and prompts out of sequence.	• Incorrect setup options selected.	• Review "Setup Procedures" on page 16.
2 Messages and prompts incomplete.	• Device damaged.	• Contact your local Medtronic representative.
3 CONNECT ELECTRODES message remains on screen after training electrodes are connected to the device.	• Instructor did not press remote control to begin scenario sequence.	• Press the ELECTRODE PADS key once on the remote control to initiate analysis prompts.
	• Damaged remote control.	• Contact your local Medtronic representative.
	• IR sensor not working properly.	• Clean/clear the sensor, if obstructed. OR
		• Contact your local Medtronic representative.

Table 9 Remote control troubleshooting

Observation	Possible Cause	Corrective Action
1 Device not responding to remote control key presses.	• IR sensor is not receiving remote control signal.	• Reposition remote control relative to the AED Trainer.
		• Remove anything that may be blocking the IR sensor.
		• Turn off lights that may be interfering.
		• Use remote control cable.
		• Replace batteries.
	• Remote control damaged.	• Replace remote control.

Table 10 Training electrodes troubleshooting

Observation	Possible Cause	Corrective Action
1 Training electrodes do not adhere to manikin.	• Adhesive contaminated.	• Replace training electrodes.
2 Training electrode connector does not plug into device.	• Training electrode connector damaged.	• Replace training electrodes.
	• Device connector damaged.	• Contact your local Medtronic representative.

Cleaning

Clean the AED Trainer and the remote control cable by wiping their surfaces with either:

*   A lint-free, slightly damp cloth moistened with mild soap and water
*   A lint-free, slightly damp cloth moistened with denatured alcohol.

Observe the following precautions when cleaning the AED Trainer:

*   Do not immerse or soak the AED Trainer or the cable.
*   Do not use bleach, bleach dilution, or phenolic compounds.
*   Do not steam or gas sterilize.

Product Recycling Information

Recycle the device at the end of its useful life.

*   Recycling Assistance

    Recycle the device according to national and local regulations. Contact your local representative for assistance.
*   Preparation

    The device should be clean and free of contaminants prior to recycling.
*   Packaging

    Recycle packaging according to local and national regulations.

Specifications

Table 11 below lists the specifications for the AED Trainer. Table 12 on page 25 lists the specifications for the remote control.

Table 11   AED Trainer specifications

General	Device designed for low impact, low stress environments. For use in temperature-controlled areas protected from precipitation. Capable of withstanding heavy usage and prolonged periods of operation.
Size	10.2 cm x 26.5 cm x 29.5 cm (4 in. x 10.4 in. x 11.6 in.) approximate.
Weight	2.1 kg (4.6 lb)
Batteries	6 volts/4 cells, range 3.2 Vdc ~ 6.5 Vdc. Four non-rechargeable D-cell alkaline batteries. New batteries will provide not less than 100 hours of continuous operation under normal indoor-environment conditions.
Buttons	ON/OFF, ANALYZE, SHOCK, UP ARROW, RIGHT ARROW
Screen Display	5 x 7 dot matrix liquid crystal display with two lines of 20 characters per line for text messages.

Table 11   AED Trainer specifications (Continued)

Speaker	Volume output: (average / maximum)
	• Hi: 100dB / 108dB
	• Med: 95dB / 105dB
	• Low: 90dB / 101dB
Operating Temperature	3° to 38°C (37.4° to 100.4°F)
Storage Temperature	-10° to 60°C (14° to 140°F) (remove batteries for storage)
Water Resistance	Spillage resistance per IEC 601-1, part 44.3

Table 12   Remote control specifications

Transmission	Wireless infrared signal. Range, 3 meters max.
	82-inch optional cable attachment.
Size	4.57 cm x 3.38 cm x 1.65 cm (1.8 in. x 1.3 in. x .6 in.)
Weight (without batteries)	32 grams (1.1 ounce)
Batteries	3 volts supplied from two AAA alkaline batteries.
Buttons	7-key membrane switch pad. Icon-labeled for the following functions: NO SHOCK, SERVICE WARNING / REQUIRED, ELECTRODE PAD CONTACT, MOTION, LOW / REPLACE BATTERY, CPSS, PAUSE.
Operating Temperature	3° to 38°C (37.4° to 100.4°F)
Storage Temperature	-10° to 60°C (14° to 140°F) (remove batteries for storage)
Water Resistance	Spillage resistance per IEC 601-1, part 44.3

Accessories

The following accessories are available for the AED Trainer:

Table 13   AED Trainer accessories

Accessory	Part Number
AED Trainer training electrodes	3006007
Soft Case	3012607
Replacement remote control and cable	3012697
Battery pack	3012698
Analyze Key Cover Labels	3012729
LIFEPAK 500T AED Training System Operating Instructions	3012699
International Identification Cards (for soft case)	3012608
International Control Panel Labels	3012609
International Handle Labels	3012610

6. REFERENCE INFORMATION

The following Quick Start reference guide contains information about remote control buttons and AED Trainer setup procedures. This reference guide may be reproduced.

LIFEPAK® 500T AED TRAINING SYSTEM
Quick Start Reference Card

Medtronic

Quick Start Procedure

1 Turn AED Trainer on.

2 Press PAUSE button on the remote control.

3 Select Shock Protocol from the Table below.

4 Press PAUSE again to confirm shock protocol. AED Trainer will turn itself off.

5 You are now ready to begin a training session. Use the remote control to create troubleshooting situations. Refer to the opposite side of this card for details.

6 Once the AED is turned on, the CONNECT ELECTRODES message appears (unless turned off in setup). Press ELECTRODE PADS on the remote control to advance to ANALYSIS.

Remote Control Button	AED Trainer Shock Protocol	Shock Order
F1	Fixed #1	SNNN
F2	Fixed #2	SSNN
F3	Fixed #3	NSNN
F4	Fixed #4	NNNN
C1*	Custom #1	SSSSSSSS
C2*	Custom #2	SSSSSSSS

* Custom settings may be changed in the setup mode (refer to operating instructions).

Note: The AED Trainer powers on with the last shock protocol selected during the previous use.

Note: For detailed instructions, refer to the LIFEPAK 500T AED TRAINING SYSTEM Operating Instructions.

S: Shock Advised   N: No Shock Advised

LIFEPAK® 500T AED TRAINING SYSTEM
Quick Start Reference Card

Medtronic

Button	Function
	Press to change any shock decision to NO SHOCK ADVISED. Function is active only during PUSH ANALYZE and STAND CLEAR, ANALYZING NOW.
	Press to toggle the training electrodes "on" or "off" the manikin. This feature is active when the training electrodes are connected to the AED Trainer.
	Press to toggle MOTION DETECTED "on" and "off." This feature is active during analysis only.
	Press once to activate a service warning (red wrench). Press twice: wrench flashes and CALL SERVICE is displayed and device will not operate. To clear, turn off the AED Trainer, or remove the battery pack.
	Press once to activate LOW BATTERY. Press twice to activate REPLACE BATTERY. Press three times to simulate failed battery. To clear, turn off the AED Trainer, or remove the battery pack.
	Press to simulate device detection of a shockable rhythm. CPSS is disabled when AUTO ANALYZE 2 is selected.
	Press any time to suspend device operation. Press again to resume operation at point of interruption. In PAUSE mode, press F1, F2, F3, F4, C1, or C2 to change shock protocol. Press PAUSE again to accept change and turn off AED Trainer.

MIN 3012699-004 / CAT. 26500-001008

APPENDIX A   DECLARATION OF CONFORMITY

C€   **DECLARATION OF CONFORMITY**   ⚕ **Medtronic**

Manufacturer's Name: Medtronic Emergency Response Systems, Inc.

Manufacturer's Address: 11811 Willows Road NE
Redmond, WA 98052-2003 USA

declares that the CE-marked product

Product Name: LIFEPAK® 500T AED Trainer

Part Number(s):   3012714-xxx
where xxx is 016 or greater

complies with:
   2002/95/EC (Restriction of Hazardous Substances Directive, RoHS)
   89/336/EEC (Electromagnetic Compatibility Directive)

Specifications:
   EN 61000-6-1:2001
   EN 61000-6-3:2001

Accessories:
   Includes infrared remote control, remote control cable, and training electrodes.

Redmond, January 9, 2007

Donald Ellis
Vice President, Quality and Regulatory Affairs

This declaration applies to CE-marked devices produced after the date of issuance of this declaration and before it is either superseded by another declaration or withdrawn.

Authorized EC Representative: Medtronic B.V., Earl Bakkenstraat 10, 6422 PJ Heerlen, The Netherlands

Medtronic Emergency Response Systems
11811 Willows Road Northeast
Redmond, WA 98052-2003 USA
Telephone: 425.867.4000
Toll Free (USA only): 800.442.1142
Fax: 425.867.4121
Internet: www.medtronic-ers.com
　　　　www.medtronic.com

Medtronic Europe S.A.
Medtronic Emergency Response Systems
Rte. Du Molliau 31
Case postale 84
1131 Tolochenaz
Switzerland
Telephone: 41.21.802.7000
Fax: 41.21.802.7900

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Medtronic
Alleviating Pain · Restoring Health · Extending Life